

WHAT IS CLAIMED IS:

1. A stent, comprising:
a generally tubular structure formed of material substantially invisible under magnetic resonance imaging (MRI) visualization; and
a radio frequency (RF) marker coupled to the generally tubular structure.
2. The stent of claim 1 wherein the RF marker is configured to emit RF energy under influence of changing electromagnetic fields in an MRI system, the RF energy generating a visual indication under MRI visualization.
3. The stent of claim 2 wherein the RF marker comprises a loop of conductive material.
4. The stent of claim 3 wherein the loop is disposed about an opening in the generally tubular structure.
5. The stent of claim 3 wherein the opening comprises a stent cell defined by a portion of the generally tubular structure.
6. The stent of claim 3 wherein the opening is defined by a peripheral circumference of the generally tubular structure.

7. The stent of claim 2 wherein the RF marker comprises a multi-loop winding of conductive material.

8. The stent of claim 7 wherein at least two of the multi-loops are oriented relative to one another to generate the RF energy under magnetic fields applied in different directions.

9. The stent of claim 8 wherein the multi-loop winding is embedded in the generally tubular structure.

10. The stent of claim 9 wherein the generally tubular structure comprises struts connected by connectors and wherein a multi-loop winding is embedded in a strut.

11. The stent of claim 9 wherein the generally tubular structure comprises struts connected by connectors and wherein the multi-loop winding is embedded in a connector.

12. The stent of claim 1 and further comprising:
a magnetic susceptibility marker connected to
the generally tubular structure.

13. A medical device for use in a body cavity,
comprising:

a structure formed of a material substantially invisible under magnetic resonance imaging (MRI) visualization; and
a radio frequency (RF) marker connected to the structure to emit sufficient RF energy under MRI visualization to disturb hydrogen atom spins of at least one voxel.

14. The medical device of claim 13 wherein the RF marker comprises a loop of conductive material.

15. The medical device of claim 14 wherein the loop is disposed about an opening in the structure.

16. The medical device of claim 14 wherein the opening is defined by a peripheral circumference of the structure.

17. The medical device of claim 14 wherein the RF marker comprises a multi-loop winding of conductive material.

18. The medical device of claim 17 wherein at least two of the multi-loops are oriented relative to one another to generate the RF energy under magnetic fields applied in different directions.

19. The medical device of claim 18 wherein the multi-loop winding is embedded in the structure.

20. The medical device of claim 19 wherein the structure comprises a stent with struts connected by connectors and wherein the multi-loop winding is embedded in a strut.

21. The medical device of claim 19 wherein the structure comprises a stent with struts connected by connectors and wherein a multi-loop winding is embedded in a connector.

22. The medical device of claim 13 and further comprising:

a magnetic susceptibility marker connected to the structure.

23. A method of implanting a medical device, comprising:

inserting the medical device, formed of material substantially invisible under magnetic resonance imaging (MRI) visualization, into a body cavity;

exposing the medical device to a magnetic field generated by a MRI system; and

visually detecting changes in atomic spins due to radio frequency (RF) energy emitted, under influence of the magnetic field, by a RF marker on the medical device.

24. The method of claim 23 wherein visually detecting comprises:

visually detecting changes in atomic spins due to both the RF marker and a magnetic susceptibility marker.